Faculty of Engineering
Credit Hours Engineering Programs

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ENGR 120: Engineering Computation
Spring 2013

SHEET 03

1. Correct and criticize the following program, and then write down the expected program output.

```
include [stdio.h]

main{}
(
        int x = 9 y = 10 z = 12;
        int Sum of Numbers;
        float Average
        float A = 9.9, B = 8,9, C = -1 * 100, D;

        Sum of Numbers = x + y + z;
        Average = (x + y + z) / 3;
        D = (A+B+C)/C*(A+B);

        printf('sum = %', &Sum of Numbers);
        printf("A = %d,  B = %d, C = %d", a, b);
        printf("%9.9f", Average);
        Getchar();
)
```

2. Find the output from the following program (the ASCII code for letter A is $(65)_{10}$).

```
#include "stdio.h"
#include "conio.h"

main()
{
     int X = 42897;
     unsigned int Y = 42897;
     int M = 7;
     char CH = 57;
     unsigned int A = 0x8776, B = 0x87AB, C;
```

```
    printf("%d \t %u", X, Y);

    M *= 5;
    printf("%d", M);

    printf("\n%d", ‘A’);

    CH *= 6;
    printf("\n%d", CH);
    printf("\t%c", CH);

    C = A & B;
    printf("\n A AND B = %04X", C);

    printf("\n A OR B = %4X", A|B);

    C = (~A)&(A^B);
    printf("\n (NOT A) AND (A XOR B) = %x", C);

    A>>=3;
    printf("\n Shifting A to the right 3 digit gives : %X", A);
    printf("\n Shifting A to the left 3 digits gives :%X", A<<3);

    getchar();
}
```

3. Write a program that reads 5 float numbers from user then prints out the average. Your program must not use memory size more than 8 bytes.

4. Write a program that prints the ASCII code (decimal and hexadecimal value) of any given characters.

5. Write a program that converts from twenty-four-hour notation to twelve-hour notation. For example, it should convert 14:25 to 2:25 PM. The input is given as two integers.
